Sea Level

OVERVIEW

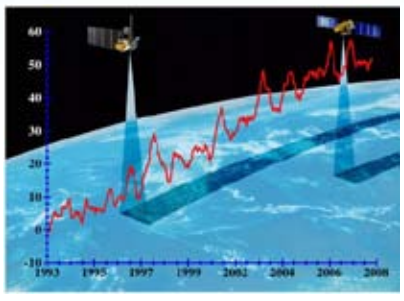
The 16-year data record of highly accurate ocean surface topography (OST) measurements – commonly called 'sea level' - has allowed scientists to gather long-term information about the world's ocean and its currents.

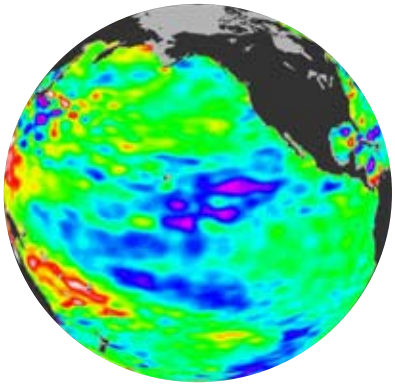
As a valuable indicator of the ocean's role in our climate, OST tells us where the ocean stores and transports heat and how it interacts with the atmosphere. Global OST is now routinely and precisely measured from space with satellite radar altimetry. Measurements acquired by the NASA and French Space Agency's (CNES) TOPEX/Poseidon (1992-2005) and Jason-1 (2001-present) have indicated a rise in sea level of 3.4 millimeters/year. This rate, if continued, could have devastating impacts on coastal communities.

The Ocean Surface Topography Mission on the Jason-2 satellite (OSTM/Jason-2) is a four-partner collaboration between NASA, CNES, the U.S. National Oceanic and Atmospheric Administration (NOAA) and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT).

OST data are being combined with other measurements to help scientists and forecasters better understand the link between the ocean and short and long term climate variabilities.

OSTM/Jason-2 and the planned follow-on missions, Jason-3 and the Surface Water and Ocean Topography (SWOT) mission, will continue and expand this critical measurement and prove its operational utility. Continuation of the OST data record is important for oceanography and our knowledge of global climate change.





FACTS

- Satellite radar altimeters provide global coverage of 95% of Earth's ice-free ocean every 10 days.
- Measure global ocean surface topography with an accuracy of 2.5 centimeters.
- Track global sea level, which has risen 50 millimeters over the past 15 years.
- Provide operational sea surface height data for research and commercial users and for policy makers.
- Improve the knowledge of global ocean circulation.
- Provide data for improved hurricane forecasting, and for marine mammal research.
- Improve understanding of the ocean's role in climate.